

WHAT IS CLAIMED IS:

1. An image process method comprising:

an input step of inputting color image data
composed of a signal representing brightness and a
5 signal representing tint; and

a smoothing process step of performing a smoothing
process to the signal representing tint, while holding
the signal representing brightness.

10 2. A method according to Claim 1, wherein said
input step further comprises a conversion step of
converting the color image data composed of plural
color component signals into the signal representing
brightness and the signal representing tint.

15 3. A method according to Claim 1, further
comprising:

a judgment step of judging whether or not the
color image data including the signal representing
20 brightness represents an edge part, on the basis of the
signal representing brightness; and

a step of not performing the smoothing process, if
it is judged that the color image data represents the
edge part.

25 4. A method according to Claim 3, wherein, if it
is judged that the color image data represents the edge

part, an emphasis process is performed to the signal representing brightness.

5 5. A method according to Claim 1, further comprising:

a judgment step of judging whether or not the color image data including the signal representing tint represents a tint change part, on the basis of the signal representing tint; and

10 a step of not performing the smoothing process, if it is judged that the color image data represents the tint change part.

15 6. A method according to Claim 1, further comprising:

a judgment step of judging whether or not the color image data represents a highlight part; and

20 a step of not performing the smoothing process, if it is judged that the color image data represents the highlight part.

7. A method according to Claim 1, wherein the smoothing process is the process which is performed by using a filter symmetrical with respect to a notable pixel in upper and lower directions and right and left directions.

8. A method according to Claim 1, wherein the smoothing process is the filtering process which uses peripheral pixels of the input color image data being the notable pixel, and the color image data subjected to the smoothing process is used in a smoothing process for other color image data.

9. A method according to Claim 8, wherein the smoothing process is the process which uses a filter having high weight for a pixel area subjected to the smoothing process prior to the notable pixel, and the data is digitally processed.

10. An image process method comprising:
an input step of inputting a drawing instruction indicating an output color image;
a detection step of detecting an image data part on the basis of the drawing instruction; and
a color noise reduction process step of performing a color noise reduction process to the image data part.

11. A method according to Claim 10, wherein the color image data is composed of a signal representing brightness and a signal representing tint, and the noise reduction process is a smoothing process which is performed to the signal representing tint while holding the signal representing brightness.

12. A method according to Claim 10, wherein, if a graphic image data part is detected on the basis of the drawing instruction, the color noise reduction process is not performed.

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13. An image process method which performs a filtering process to color image data, comprising:

10 a detection step of detecting a scene change part in accordance with the color image data and peripheral color image data; and

a filter size change step of changing a filter size in accordance with the detected result.

14. A method according to Claim 13, wherein a
15 filter used in the filtering process is a filter for referring to a notable line including a notable pixel and lines before the notable line.

15. A method according to Claim 13, further
20 comprising:

a drawing instruction group input step of inputting a group of drawing instructions indicating an output image;

25 an image data generation step of generating output image data representing the output image, on the basis of the group of the drawing instructions;

a division step of dividing the same image on the

a division image input step of inputting the divided plural images.

input means for inputting color image data
composed of a signal representing brightness and a
signal representing tint;

image formation means for forming an image on the basis of the signal representing brightness and the signal representing tint subjected to the smoothing process.

input means for inputting a drawing instruction
indicating an output color image;

color noise reduction process means for performing
a color noise reduction process to the image data part;
and

18. An image process apparatus which performs a

filtering process to color image data, comprising:

detection means for detecting a scene change part in accordance with the color image data and peripheral color image data;

5 filter size change means for changing a filter size in accordance with the detected result; and image formation means.

10 19. A computer-readable recording medium which records a program to cause a computer to execute:

an input procedure for inputting color image data composed of a signal representing brightness and a signal representing tint; and

15 a smoothing process procedure for performing a smoothing process to the signal representing tint, while holding the signal representing brightness.

20 20. A computer-readable recording medium which records a program to cause a computer to execute:

an input procedure for inputting a drawing instruction indicating an output color image;

a detection procedure for detecting an image data part on the basis of the drawing instruction; and

25 a color noise reduction process procedure for performing a color noise reduction process to the image data part.

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21. A computer-readable recording medium which records a program to cause a computer to execute, in an image process method for performing a filtering process to color image data:

5 a detection procedure for detecting a scene change part in accordance with the color image data and peripheral color image data; and

 a filter size change procedure for changing a filter size in accordance with the detected result.

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22. An image process method comprising:

 a calculation step of calculating a feature quantity of an input image;

 a color noise reduction process step of performing
15 a color noise reduction process to input image data;
 and

 an image correction step of performing a correction process to the input image subjected to the color noise reduction process, on the basis of the
20 calculated feature quantity.

23. A method according to Claim 22, wherein the input image data includes a component representing brightness and a component representing tint, and

25 in said color noise reduction process step, a smoothing process is performed to the component representing tint.

24. A method according to Claim 22, further comprising an enlargement process step of performing an enlargement process to the corrected input image.

5 25. A method according to Claim 22, further comprising a scaling step of scaling an image size, and wherein the order of said scaling step and said color noise reduction process step is controlled in accordance with a scaling rate.

10 26. A method according to Claim 22, further comprising a reduction step of reducing an image size, and wherein the order of said reduction step and said color noise reduction process step is controlled in accordance with a reduction method.

20 27. A method according to Claim 22, wherein, in said image correction step, brightness of the input image is corrected.

25 28. A method according to Claim 22, wherein, in said image correction step, saturation of the input image is corrected.

 29. A method according to Claim 23, wherein, in said image correction step, the component representing

brightness and the component representing tint are corrected.

30. A method according to Claim 22, wherein, in
5 said calculation step, the feature quantity is
calculated on the basis of the input image subjected to
the color noise reduction process.

31. A method according to Claim 22, wherein the
10 color noise reduction process is performed on the basis
of a user's manual instruction.

32. An image process method comprising:
a color noise reduction process step of performing
15 a color noise reduction process for input digital image
data; and

a scaling step of scaling an image size,
wherein the order of said color noise reduction
process step and said scaling step is controlled in
20 accordance with a scaling rate or a scaling method.

33. An image process apparatus comprising:
calculation means for calculating a feature
quantity of an input image;
25 color noise reduction process means for performing
a color noise reduction process for input image data;
and

image correction means for performing a correction process to the input image subjected to the color noise reduction process, on the basis of the calculated feature quantity.

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34. An apparatus according to Claim 33, further comprising image formation means for forming an image on the basis of the image data subjected to the correction process.

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35. A recording medium which records a computer-readable program to realize an image process apparatus comprising:

15 a calculation step of calculating a feature quantity of an input image;

a color noise reduction process step of performing a color noise reduction process for input image data; and

20 an image correction step of performing a correction process to the input image subjected to the color noise reduction process, on the basis of the calculated feature quantity.